SEQUENCE LISTING

<110> Luo, Peizhi

<120> STRUCTURE-BASED SCREENING TECHNIQUES FOR DRUG DISCOVERY

<130> A-68126-1/RFT/RMS/RMK

<140> 09/502,984
<141> 2000-02-11

<150> 60/120,009
<151> 1999-02-11

<150> 60/131,674
<151> 1999-04-29

<160> 36

<170> PatentIn Ver. 2.1

<210> 1
<211> 225
<212> PRT
<213> Homo sapiens

<400> 1

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Ala Pro Pro Pro Asn Leu Pro Asp Pro Lys Phe Glu Ser Lys Ala Ala
  1               5                  10                  15

Leu Leu Ala Ala Arg Gly Pro Glu Glu Leu Leu Cys Phe Thr Glu Arg
             20                  25                  30

Leu Glu Asp Leu Val Cys Phe Trp Glu Glu Ala Ala Ser Ala Gly Val
         35                  40                  45

Gly Pro Gly Asn Tyr Ser Phe Ser Tyr Gln Leu Glu Asp Glu Pro Trp
     50                  55                  60

Lys Leu Cys Arg Leu His Gln Ala Pro Thr Ala Arg Gly Ala Val Arg
 65                  70                  75                  80

Phe Trp Cys Ser Leu Pro Thr Ala Asp Thr Ser Ser Phe Val Pro Leu
                 85                  90                  95

Glu Leu Arg Val Thr Ala Ala Ser Gly Ala Pro Arg Tyr His Arg Val
            100                 105                 110
```

```
Ile His Ile Asn Glu Val Val Leu Leu Asp Ala Pro Val Gly Leu Val
        115                 120                 125

Ala Arg Leu Ala Asp Glu Ser Gly His Val Val Leu Arg Trp Leu Pro
    130                 135                 140

Pro Pro Glu Thr Pro Met Thr Ser His Ile Arg Tyr Glu Val Asp Val
145                 150                 155                 160

Ser Ala Gly Asn Gly Ala Gly Ser Val Gln Arg Val Glu Ile Leu Glu
                165                 170                 175

Gly Arg Thr Glu Cys Val Leu Ser Asn Leu Arg Gly Arg Thr Arg Tyr
            180                 185                 190

Thr Phe Ala Val Arg Ala Arg Met Ala Glu Pro Ser Phe Gly Gly Phe
        195                 200                 205

Trp Ser Ala Trp Ser Glu Pro Val Ser Leu Leu Thr Pro Ser Asp Leu
    210                 215                 220

Asp
225
```

<210> 2
<211> 211
<212> PRT
<213> Homo sapiens

<400> 2

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Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95
```

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 3
<211> 212
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 3
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Ile Arg Ile Phe Trp Cys Ser Leu Pro Thr Ala

```
 65                  70                  75                  80

Asp Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser
                 85                  90                  95

Gly Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu
            100                 105                 110

Leu Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly
        115                 120                 125

His Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser
    130                 135                 140

His Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser
145                 150                 155                 160

Val Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser
                165                 170                 175

Asn Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met
            180                 185                 190

Ala Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val
        195                 200                 205

Ser Leu Leu Thr
    210
```

<210> 4
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 4

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Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Phe Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
         35                  40                  45
```

```
Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Leu Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 5
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 5

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Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30
```

```
Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Ile Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Phe Glu Leu Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Leu Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Ile Thr Ile Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 6
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 6
```
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
```

```
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Phe Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Leu Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Ile Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Phe Glu Leu Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Leu Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Ile Thr Ile Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 7
<211> 211
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC

<400> 7

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Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
            20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 8
<211> 211

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 8

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Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Ile Ser Phe
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Ile His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Tyr Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Phe Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 9
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 9
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Phe Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Leu Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser

195 200 205

Leu Leu Thr
210

<210> 10
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 10
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Trp Glu Ile Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Phe Thr Val Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Phe Leu Thr
210

<210> 11
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 11
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Phe Glu Ile Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Val Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Phe Leu Thr
210

<210> 12
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 12
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His

```
    130                 135                 140

Ile Arg Trp Glu Leu Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Phe Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Ile Leu Thr
    210
```

<210> 13
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 13

```
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Leu Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110
```

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 14
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 14
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Leu Thr Ala Ala Ser Gly
85 90 95

```
Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 15
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 15

```
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Phe Ser Phe Ser Phe
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Ile Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
```

65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Leu Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Phe His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 16
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 16
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

```
Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Ile Val Val Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Ile Val Ile Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Phe Glu Ile Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Ile Thr Ile Ala Ile Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Ile Leu Thr
    210
```

<210> 17
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 17

```
Lys Phe Glu Ser Lys Ala Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30
```

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Ile Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Ile Val Ile Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Phe Glu Ile Asp Ile Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Ile Thr Leu Ala Ile Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 18
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 18
Lys Phe Glu Ser Lys Ala Ala Phe Leu Ala Ala Arg Gly Pro Glu Glu

```
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Trp Phe Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 19
<211> 211
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SYNTHETIC

<400> 19

```
Lys Phe Glu Ser Lys Leu Ala Leu Leu Ala Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Leu Thr Glu Arg Leu Glu Asp Leu Ile Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Phe Trp Ser Ala Tyr Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 20
<211> 211

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 20
Lys Phe Glu Ser Lys Ala Ala Phe Leu Trp Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Val Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Trp Phe Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 21
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 21

```
Lys Leu Glu Ser Lys Ala Ala Tyr Leu Val Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Ile Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Trp Ile Ser Ala Trp Ser Glu Pro Val Ser
```

195 200 205

Leu Leu Thr
210

<210> 22
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 22
Lys Trp Glu Ser Lys Leu Ala Ile Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Leu Thr Glu Arg Leu Glu Asp Leu Leu Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Phe Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

```
Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Ile Tyr Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 23
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 23

```
Lys Leu Glu Ser Lys Ala Ala Trp Leu Tyr Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Ile Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160
```

```
Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Trp Ile Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 24
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 24

```
Lys Tyr Glu Ser Lys Leu Ala Leu Tyr Trp Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Tyr Thr Glu Arg Leu Glu Asp Leu Ile Cys Phe Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Trp Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
```

130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Trp Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 25
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 25
Lys Ala Glu Ser Lys Tyr Ala Leu Tyr Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Tyr Thr Glu Arg Leu Glu Asp Leu Ile Cys Tyr Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Tyr Leu
100 105 110

```
Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Trp Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 26
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 26

```
Lys Tyr Glu Ser Lys Leu Ala Ile Tyr Trp Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Tyr Thr Glu Arg Leu Glu Asp Leu Ile Cys Tyr Trp Glu
             20                  25                  30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95
```

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Trp
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Trp Trp Ser Ala Trp Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 27
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 27
Lys Lys Glu Ser Lys Met Ala Met Leu Ala Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Glu Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
50 55 60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp

65 70 75 80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
85 90 95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
100 105 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
115 120 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
130 135 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145 150 155 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
165 170 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
180 185 190

Glu Pro Ser Phe Gly Gly Met Glu Ser Ala Tyr Ser Glu Pro Val Ser
195 200 205

Leu Leu Thr
210

<210> 28
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 28
Lys Phe Glu Ser Lys Ser Ala Lys Leu Trp Ala Arg Gly Pro Glu Glu
1 5 10 15

Leu Leu Cys Phe Thr Glu Arg Leu Glu Asp Leu Gln Cys Phe Trp Glu
20 25 30

Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
35 40 45

```
Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Leu Leu
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Trp Glu Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 29
<211> 211
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 29

```
Lys Gln Glu Ser Lys Arg Ala Leu Asn Asp Ala Arg Gly Pro Glu Glu
  1               5                  10                  15

Leu Leu Cys Arg Thr Glu Arg Leu Glu Asp Leu Glu Cys Tyr Trp Glu
             20                  25                  30
```

```
Glu Ala Ala Ser Ala Gly Val Gly Pro Gly Asn Tyr Ser Phe Ser Tyr
         35                  40                  45

Gln Leu Glu Asp Glu Pro Trp Lys Leu Cys Arg Leu His Gln Ala Pro
     50                  55                  60

Thr Ala Arg Gly Ala Val Arg Phe Trp Cys Ser Leu Pro Thr Ala Asp
 65                  70                  75                  80

Thr Ser Ser Phe Val Pro Leu Glu Leu Arg Val Thr Ala Ala Ser Gly
                 85                  90                  95

Ala Pro Arg Tyr His Arg Val Ile His Ile Asn Glu Val Val Glu Met
            100                 105                 110

Asp Ala Pro Val Gly Leu Val Ala Arg Leu Ala Asp Glu Ser Gly His
        115                 120                 125

Val Val Leu Arg Trp Leu Pro Pro Pro Glu Thr Pro Met Thr Ser His
    130                 135                 140

Ile Arg Tyr Glu Val Asp Val Ser Ala Gly Asn Gly Ala Gly Ser Val
145                 150                 155                 160

Gln Arg Val Glu Ile Leu Glu Gly Arg Thr Glu Cys Val Leu Ser Asn
                165                 170                 175

Leu Arg Gly Arg Thr Arg Tyr Thr Phe Ala Val Arg Ala Arg Met Ala
            180                 185                 190

Glu Pro Ser Phe Gly Gly Asn Trp Ser Ala Trp Ser Glu Pro Val Ser
        195                 200                 205

Leu Leu Thr
    210
```

<210> 30
<211> 5
<212> PRT
<213> Unknown Organism

<220>
<221> UNSURE
<222> (3)
<223> Xaa at position 3 can be any amino acid

<220>
<223> Description of Unknown Organism: cytokine
receptor motif found in many species

<400> 30
Trp Ser Xaa Trp Ser
1 5

<210> 31
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 31
Arg Met Glu Lys Leu Glu Gln Lys Val Lys Glu Leu Leu Arg Lys Asn
1 5 10 15

Glu Arg Leu Glu Glu Glu Val Glu Arg Leu Lys Gln Leu Val Gly Glu
20 25 30

Arg

<210> 32
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 32
Ala Ala Leu Glu Ser Glu Val Ser Ala Leu Glu Ser Glu Val Ala Ser
1 5 10 15

Leu Glu Ser Glu Val Ala Ala Leu
20

<210> 33
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 33
Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser Lys Leu Ala
1 5 10 15

Ser Val Lys Ser Lys Leu Ala Ala
20

<210> 34
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 34
Gly Ser Gly Gly Ser
1 5

<210> 35
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 35
Gly Gly Gly Gly Ser
1 5

<210> 36
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 36
Gly Gly Gly Ser

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 33
Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser Lys Leu Ala
1 5 10 15

Ser Val Lys Ser Lys Leu Ala Ala
20

<210> 34
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 34
Gly Ser Gly Gly Ser
1 5

<210> 35
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 35
Gly Gly Gly Gly Ser
1 5

<210> 36
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SYNTHETIC

<400> 36
Gly Gly Gly Ser
1